

ABSTRACT

An optical memory medium includes at least one multi-layered waveguide
hologram ROM that uses diffracted light based on incident light to a multi-layered
5 waveguide hologram to read out data, and at least one memory that is integrally
constituted with the multi-layered waveguide hologram ROM and is used to read and
write data. A reproduction apparatus for the optical memory medium includes a light
inputting unit for inputting light into the multi-layered waveguide hologram of the optical
memory medium, a light receiving element for receiving light diffracted by the
10 multi-layered waveguide hologram from the light input by the light inputting unit and for
converting into an electric signal, and a data record reproduction unit for reading and
writing data with respect to the memory of the optical memory medium.